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Early Education:
A Sound Public Investment

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2007 Tennessee Early Childhood Summit

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National Institute for Early Education Research

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Impacts of Quality Early Education

Increased Educational Success and Adult Productivity

- Achievement test scores
- Special education and grade repetition
- High school graduation
- Behavior problems, delinquency, and crime
- Employment, earnings, and welfare dependency

Decreased Costs to Government

- Schooling costs
- Social services costs
- Crime costs
- Health care costs (teen pregnancy and smoking)

Barnett, W. S. (2002) Early childhood education. In A. Molnar (Ed.) *School reform proposals: The research evidence* (pp.1-26). Greenwich, CT: Information Age Publishing.

Randomized Trials

- **Long Term**
  - **Perry Preschool[1], IDS[2], Early Training Project[3]**
  - **Abecedarian[4], Milwaukee[5], CARE[6]**
  - **IHDP[7] (not Disadvantaged), Houston PCDC[8]**
  - **Mauritius Preschool Study[9]**
- **Short Term**
  - **National Early Head Start[10]**
  - **National Head Start[11]**
  - **Many smaller scale studies**

*See slides at the end of the presentation for references.

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Quasi-Experimental Studies: Follow-up Into School Years

- Chicago Child Parent Center Study (12th grade)[12]
- Michigan School Readiness (4th grade)[13]
- South Carolina Pre-K (1st grade)[14]
- New York Pre-K (3rd Grade)[15]
- Ludwig & Miller Head Start (12th grade +)[16]
- RAND National study of 4th grade NAEP[17]
- Cost Quality and Outcomes (3rd grade)[18]
- Vandell NICHD Early Care and Education[19]
- Early Provision of Preschool Education (England)[20]

*See slides at the end of the presentation for references.

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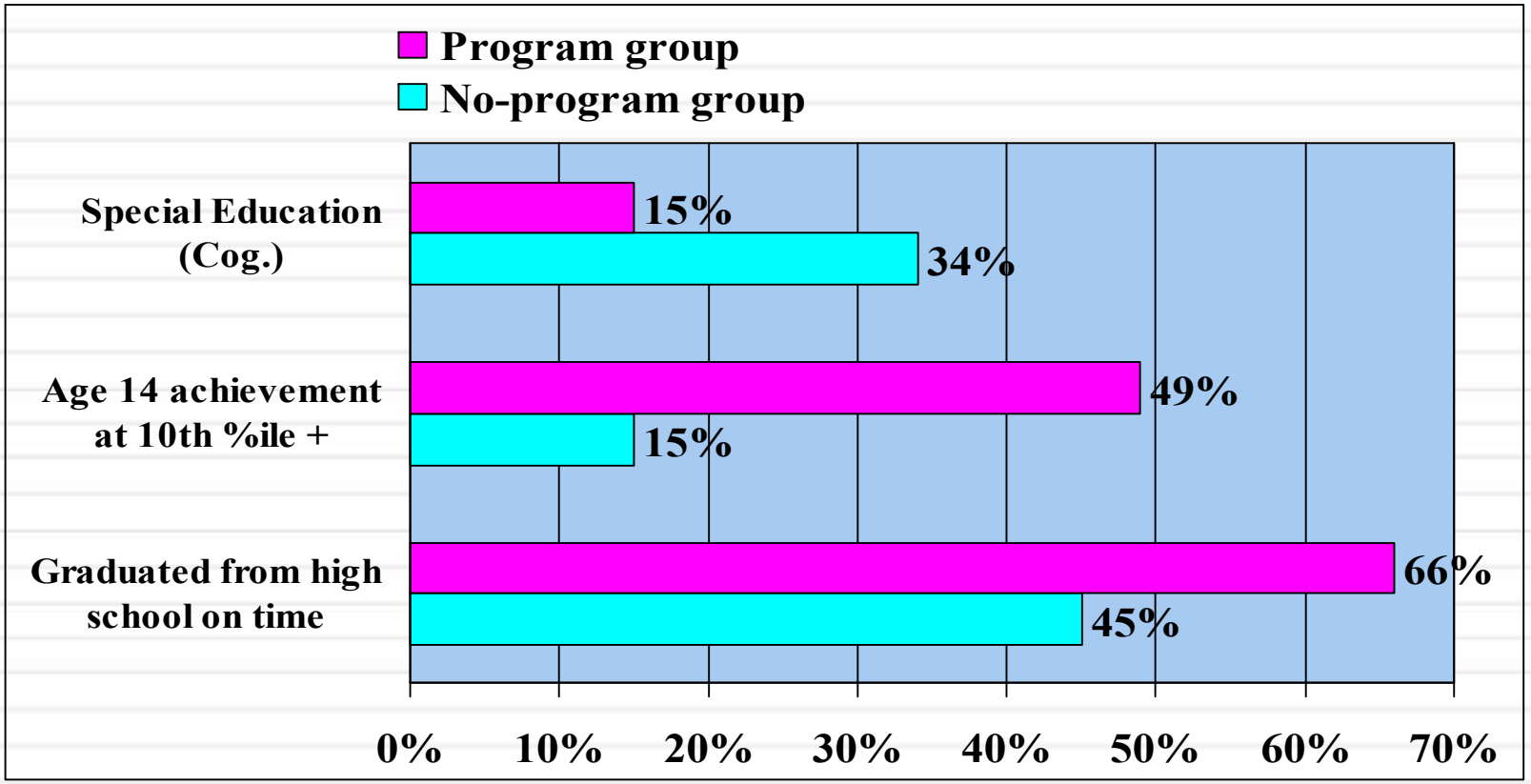
Three Benefit-Cost Analyses with Disadvantaged Children

	Abecedarian	Chicago	High/Scope
Year began	1972	1985	1962
Location	Chapel Hill, NC	Chicago, IL	Ypsilanti, MI
Sample size	111	1,539	123
Design	RCT	Matched neighborhood	RCT
Ages	6 wks-age 5	Ages 3-4	Ages 3-4
Program schedule	Full-day, year round	Half-day, school year	Half-day, school year

Barnett, W. S., & Masse, L. N. (2007). Early childhood program design and economic returns: Comparative benefit-cost analysis of the Abecedarian program and policy implications, *Economics of Education Review, 26,* 113-125; Temple, J. A., & Reynolds, A. J. (2007). Benefits and costs of investments in preschool education: Evidence from the Child-Parent Centers and related programs. *Economics of Education Review, 26(1), 126-144*; Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R., & Nores, M. (2005). *Lifetime effects: The High/Scope Perry Preschool study through age 40* (Monographs of the High/Scope Educational Research Foundation, 14). Ypsilanti, MI: High/Scope Educational Research Foundation.

High/Scope Perry Preschool: Educational Effects



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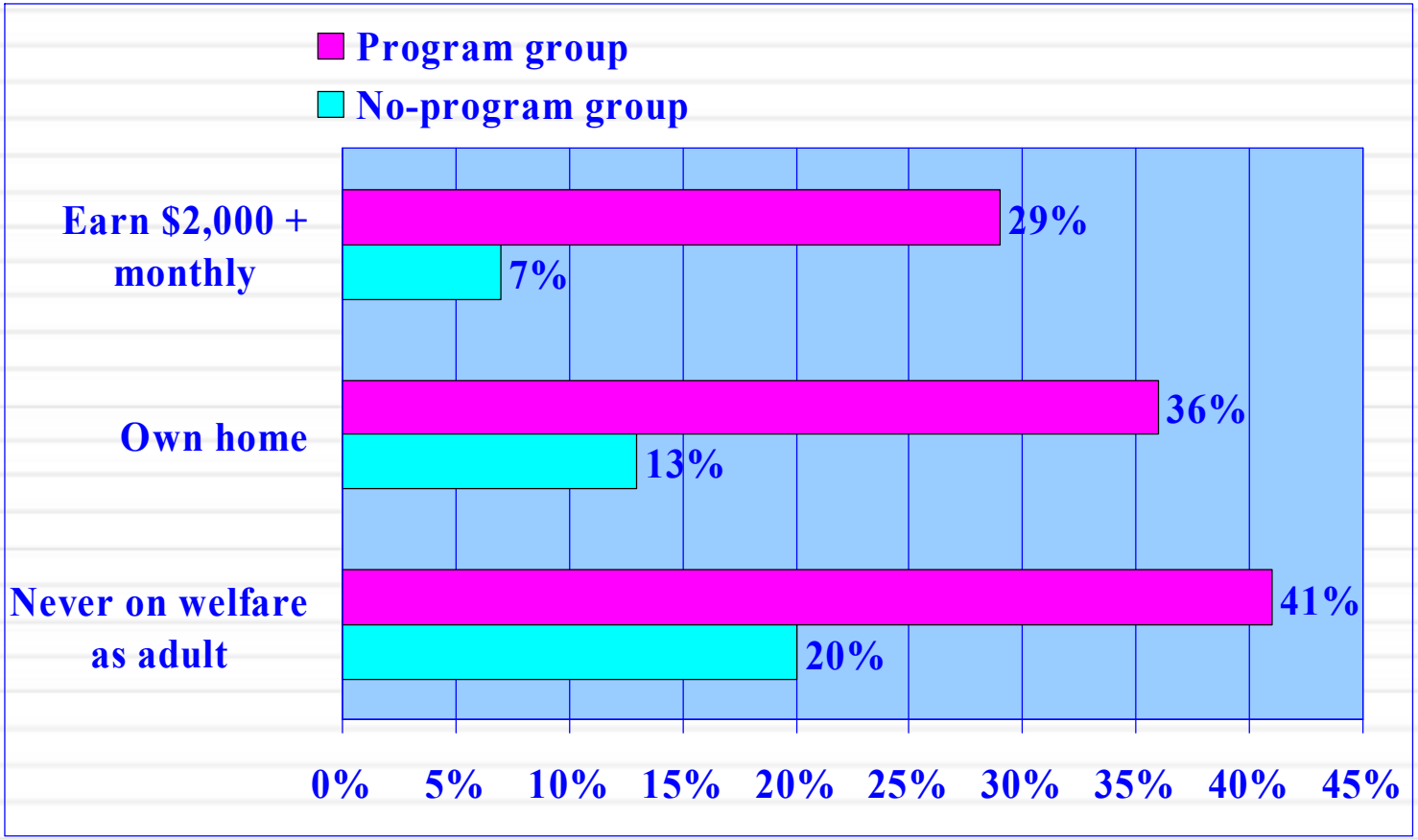
High/Scope Perry Preschool: Economic Effects at Age 27



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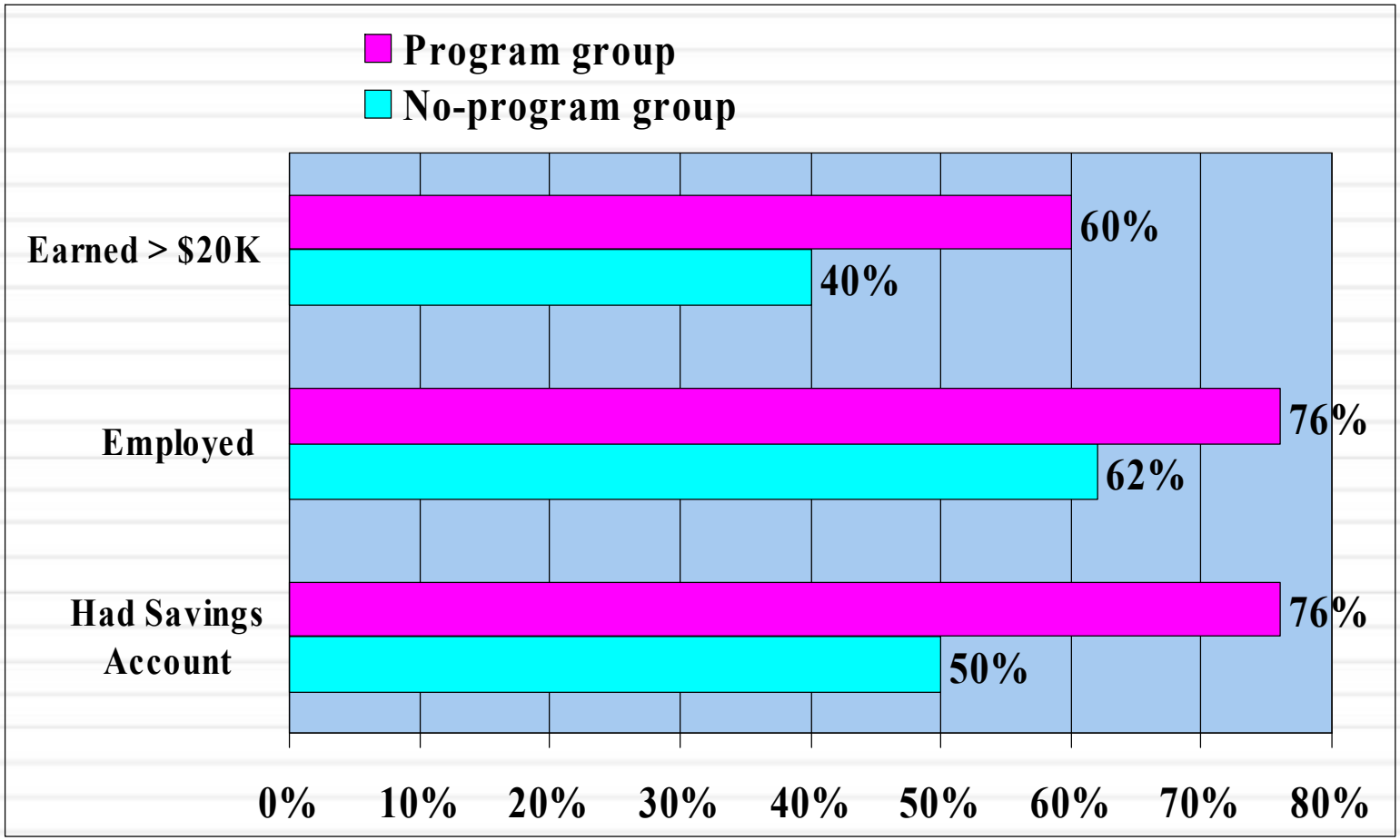
Perry Preschool: Economic Effects at 40



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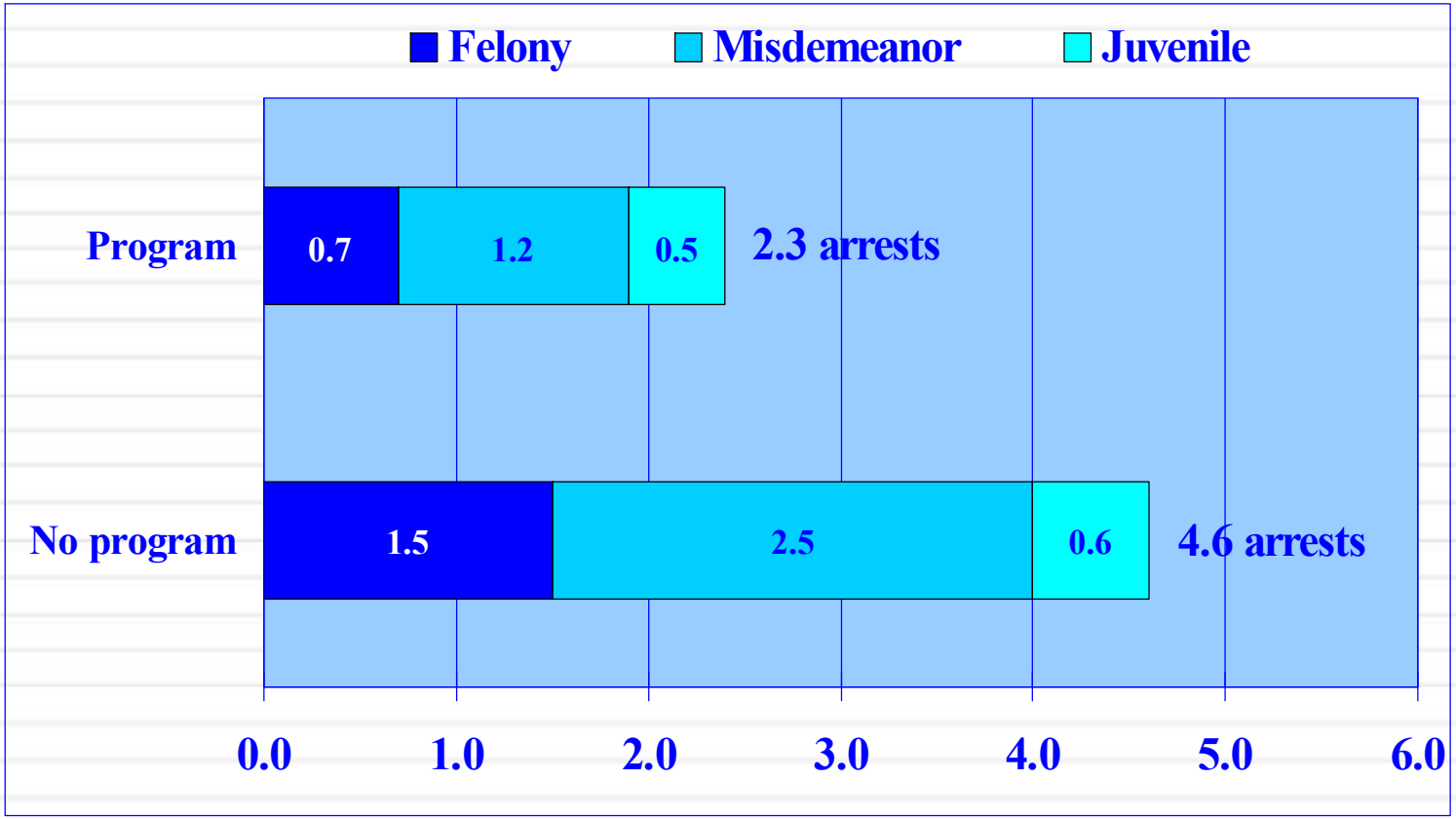
High/Scope Perry Preschool: Arrests per person by age 27



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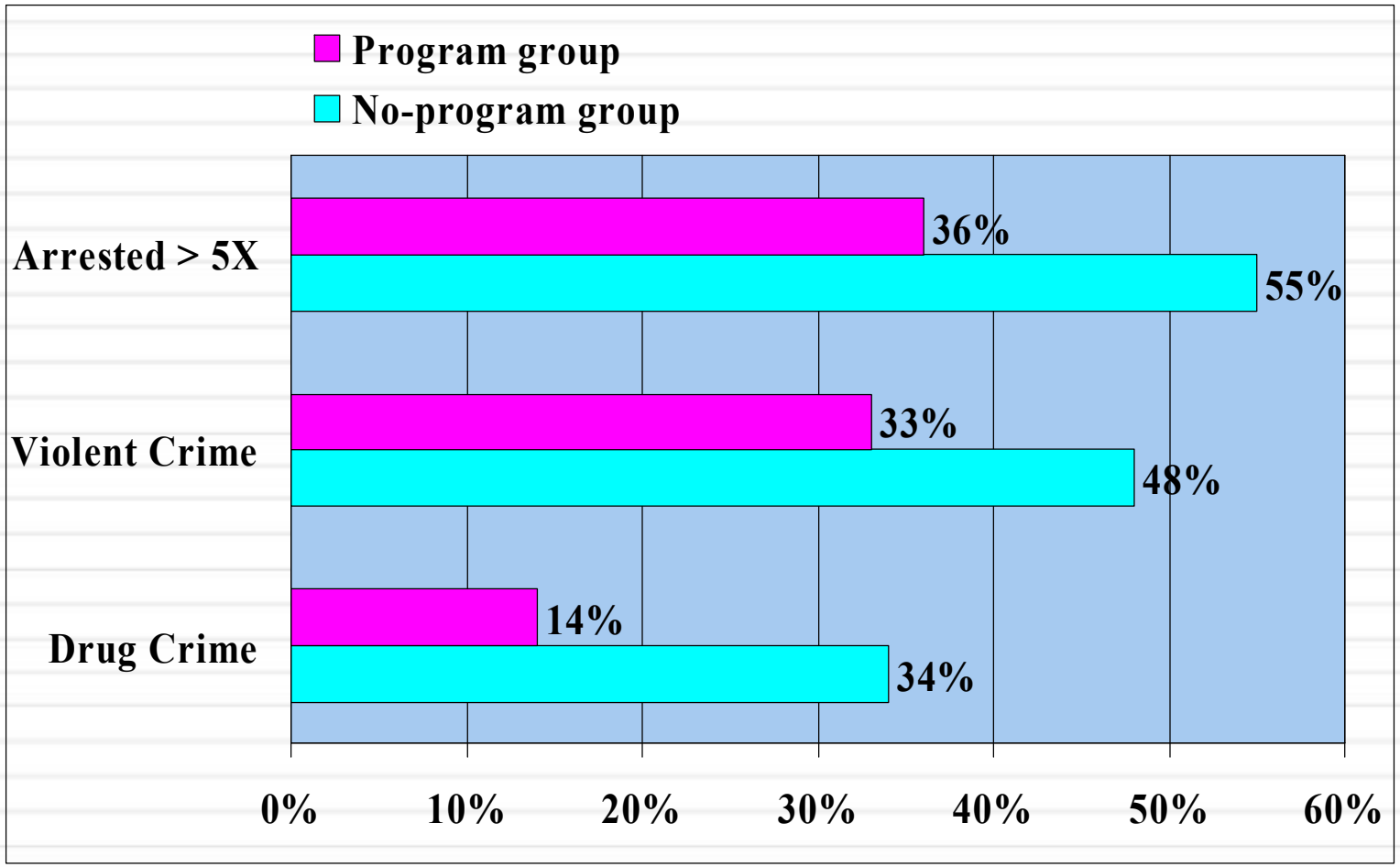
Perry Preschool: Crime Effects at 40



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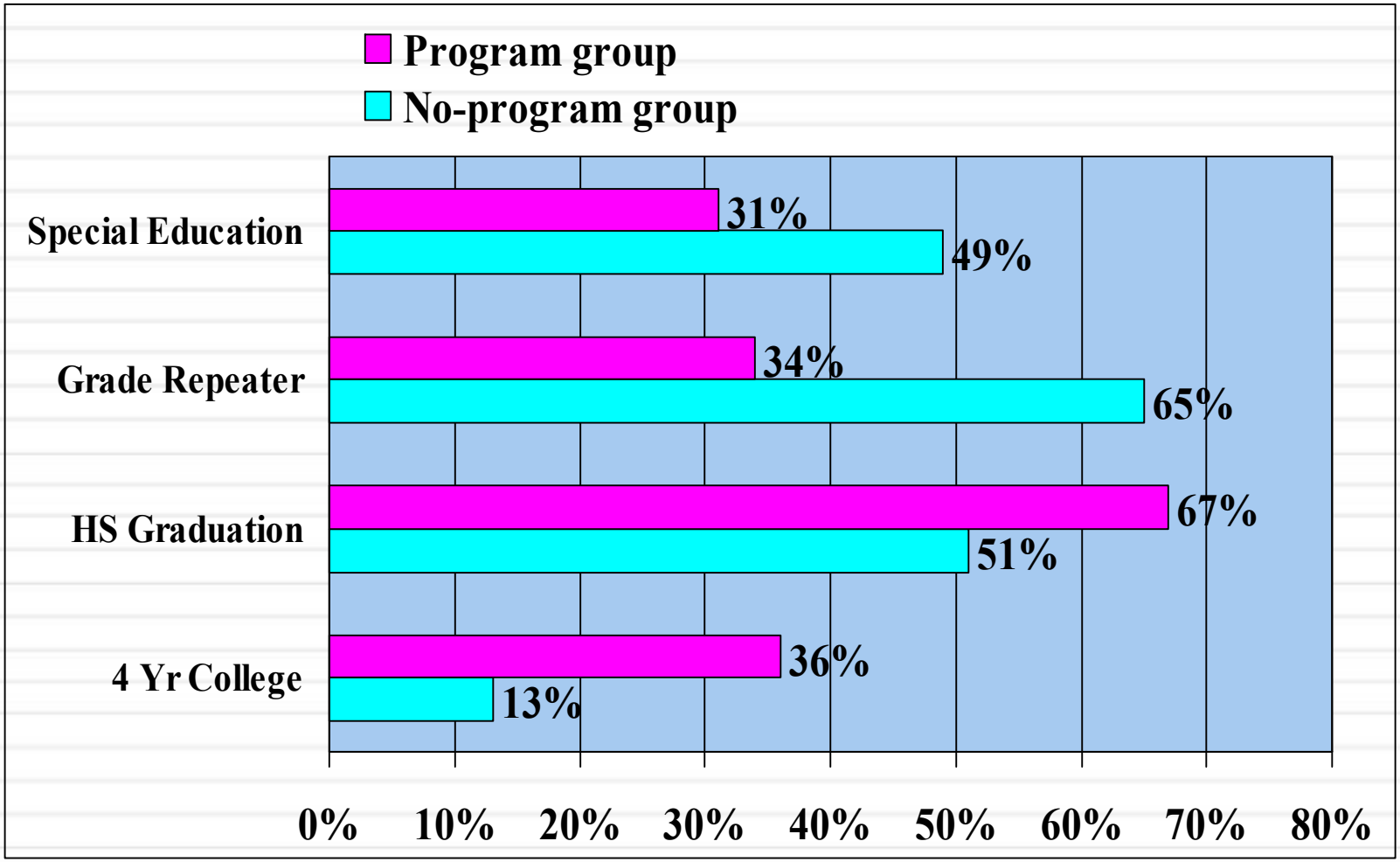
Abecedarian : Academic Benefits



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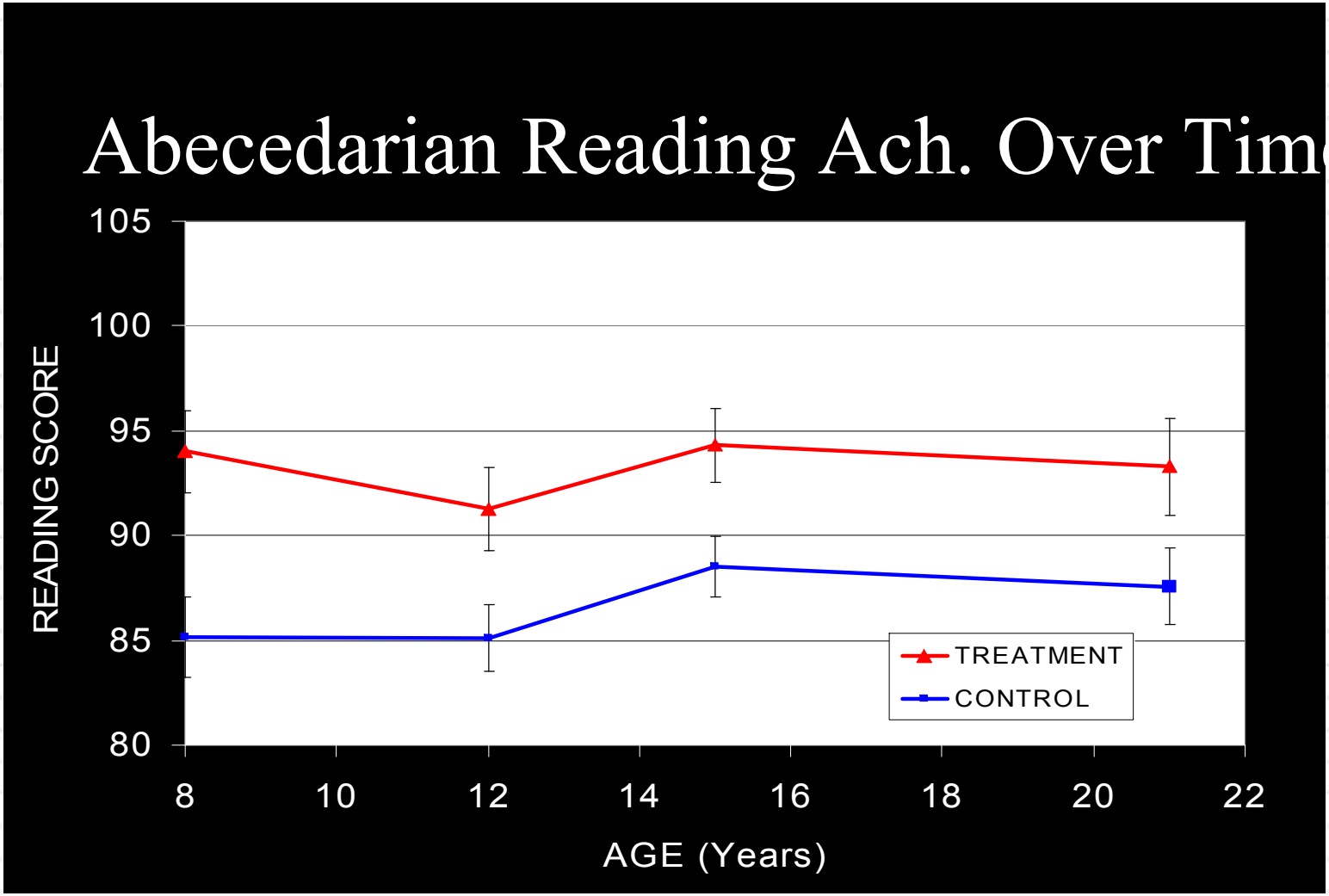
Abecedarian Reading Ach. Over Tim



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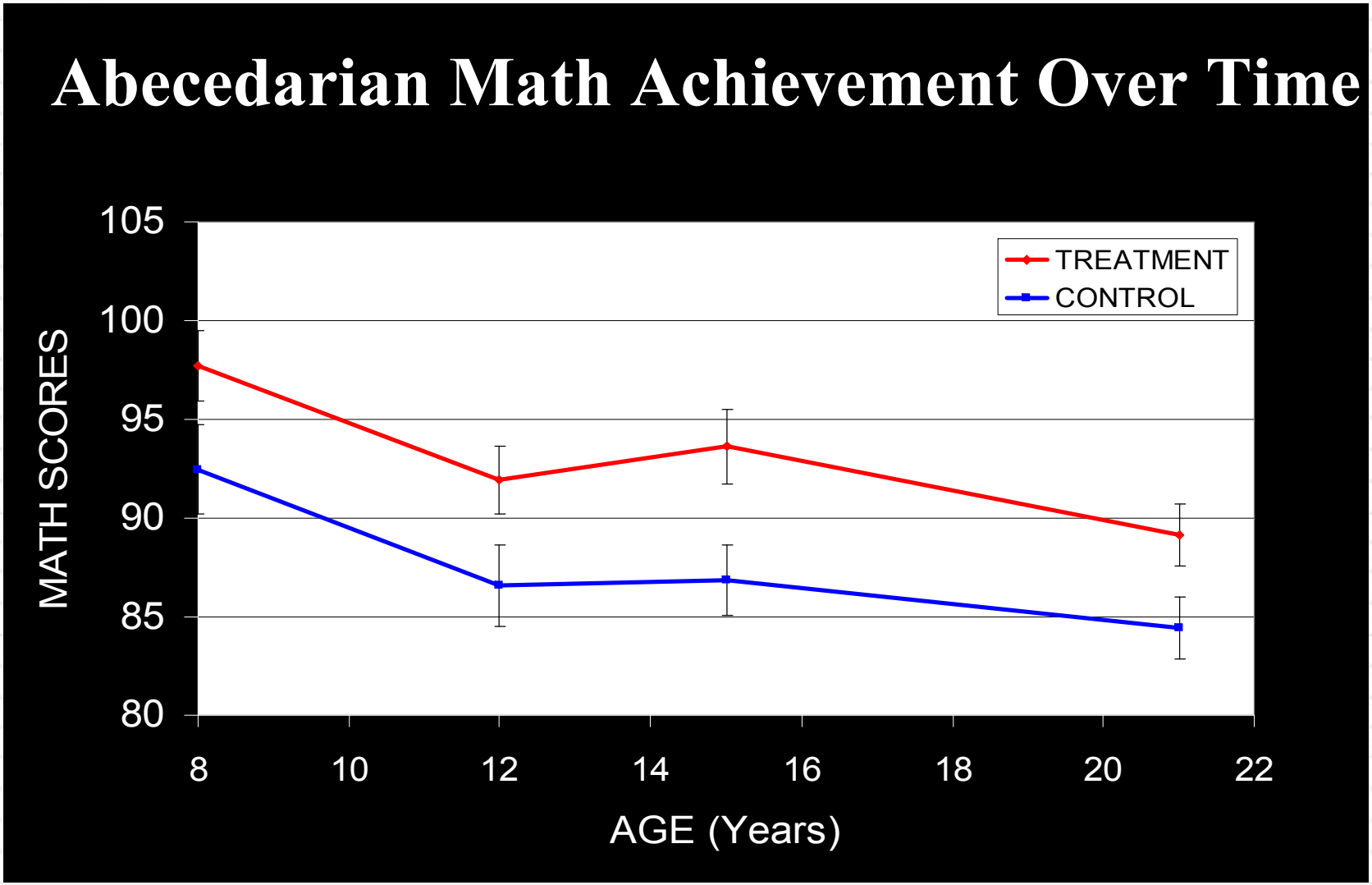
Abecedarian Math Achievement Over Time



Campbell, F. A., Pungello, E. P., Miller-Johnson, S., Burchinal, M., & Ramey, C. (2001). The development of cognitive and academic abilities: Growth curves from an early childhood educational experiment. *Developmental Psychology, 37*, 231-242.

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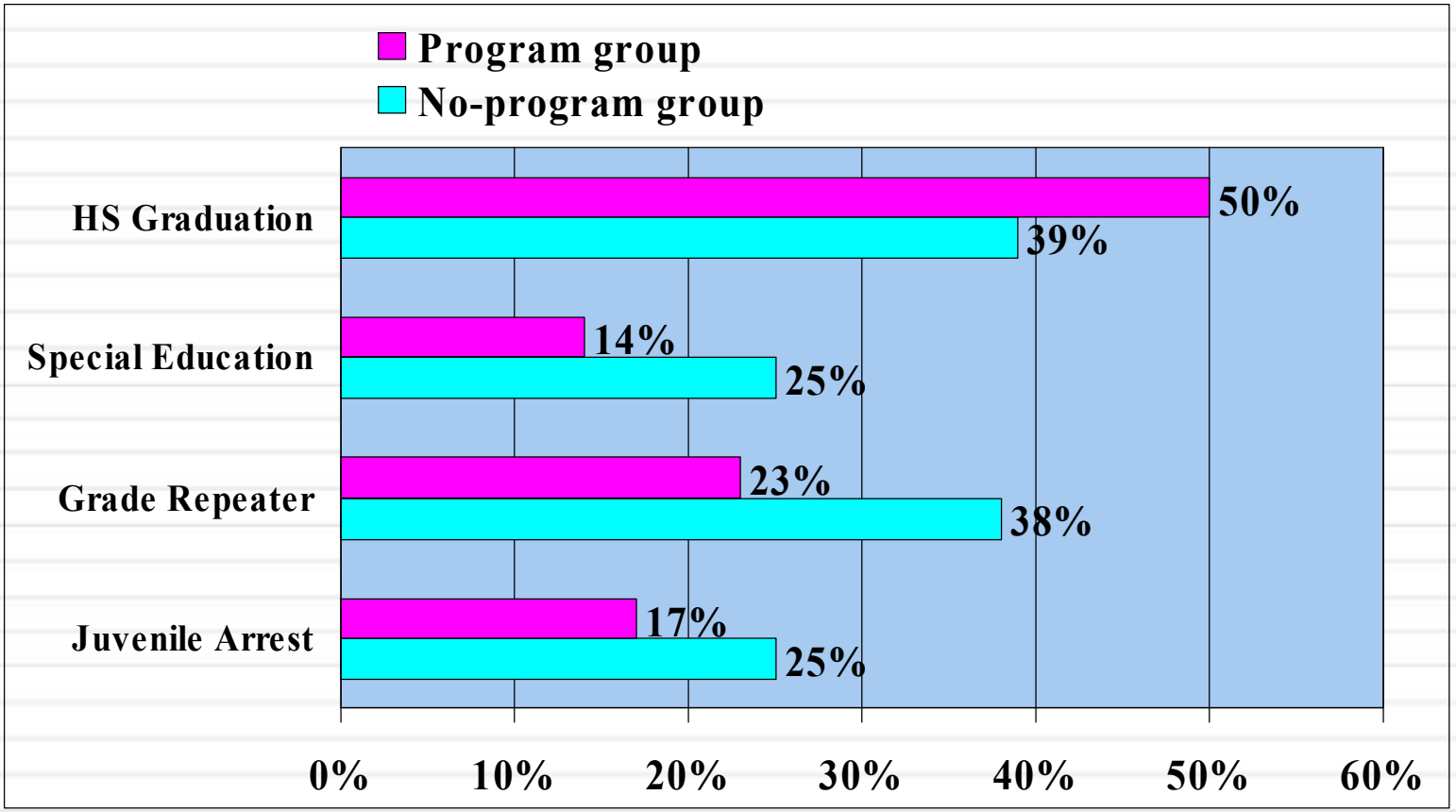
Chicago CPC: Academic and Social Benefits at School Exit



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Economic Returns to Pre-K for Disadvantaged Children

(In 2006 dollars, 3% discount rate)

	Cost	Benefits	B/C
▪ Perry Pre-K	$17,599	$284,086	16
▪ Abecedarian	$70,697	$176,284	2.5
▪ Chicago	$ 8,224	$ 83,511	10

Barnett, W. S., & Masse, L. N. (2007). Early childhood program design and economic returns: Comparative benefit-cost analysis of the Abecedarian program and policy implications, *Economics of Education Review, 26,* 113-125; Belfield, C., Nores, M., Barnett, W.S., & Schweinhart, L.J. (2006). The High/Scope Perry Preschool Program. *Journal of Human Resources*, *41*(1), 162-190; Temple, J. A., & Reynolds, A. J. (2007). Benefits and costs of investments in preschool education: Evidence from the Child-Parent Centers and related programs. *Economics of Education Review, 26(1), 126-144*.

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Middle Income Children Need Better Early Education Too

- Undeveloped potential at school entry
- Most school failure is middle income
- Middle income children lack access

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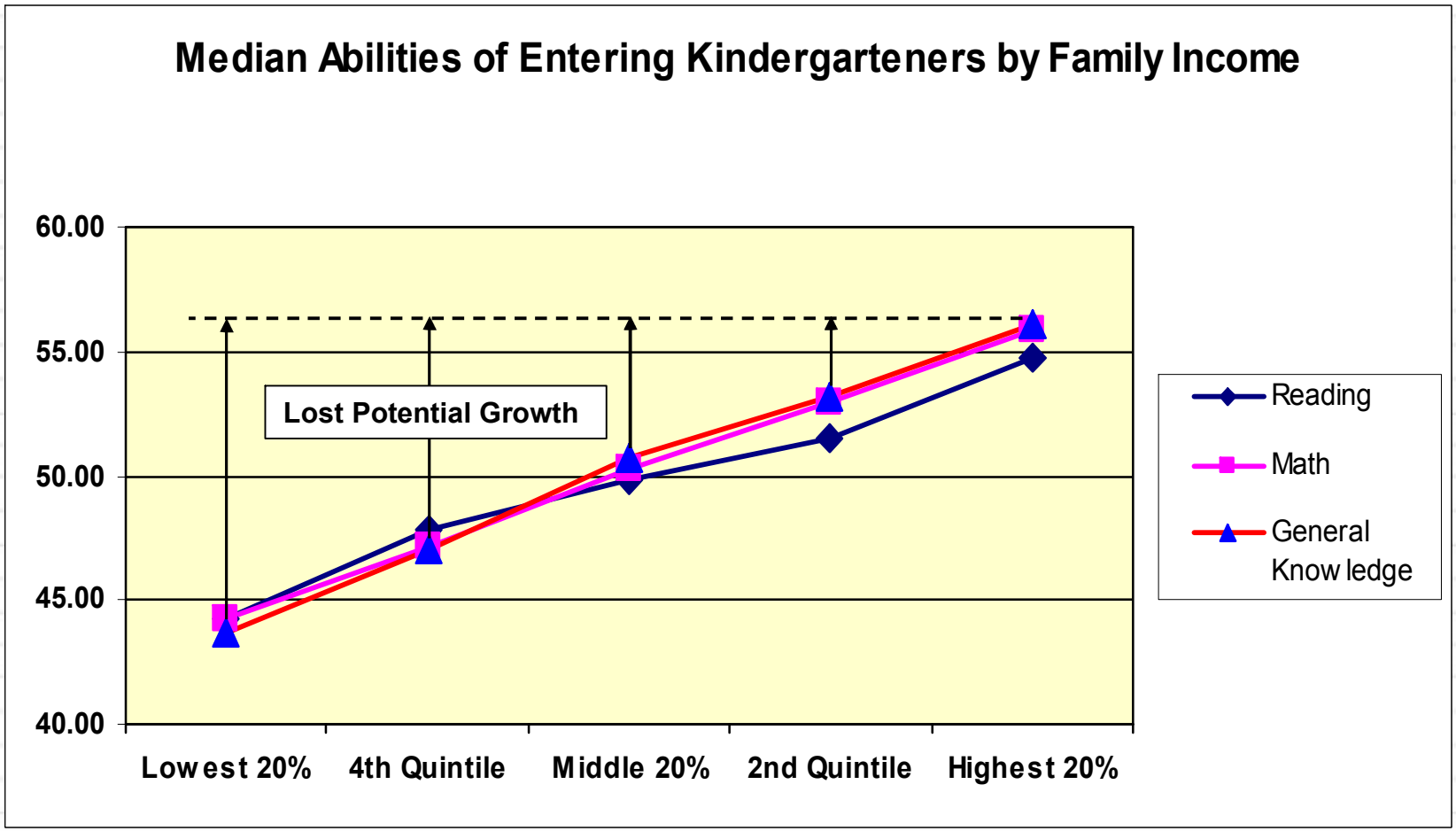
Cognitive Development Gap



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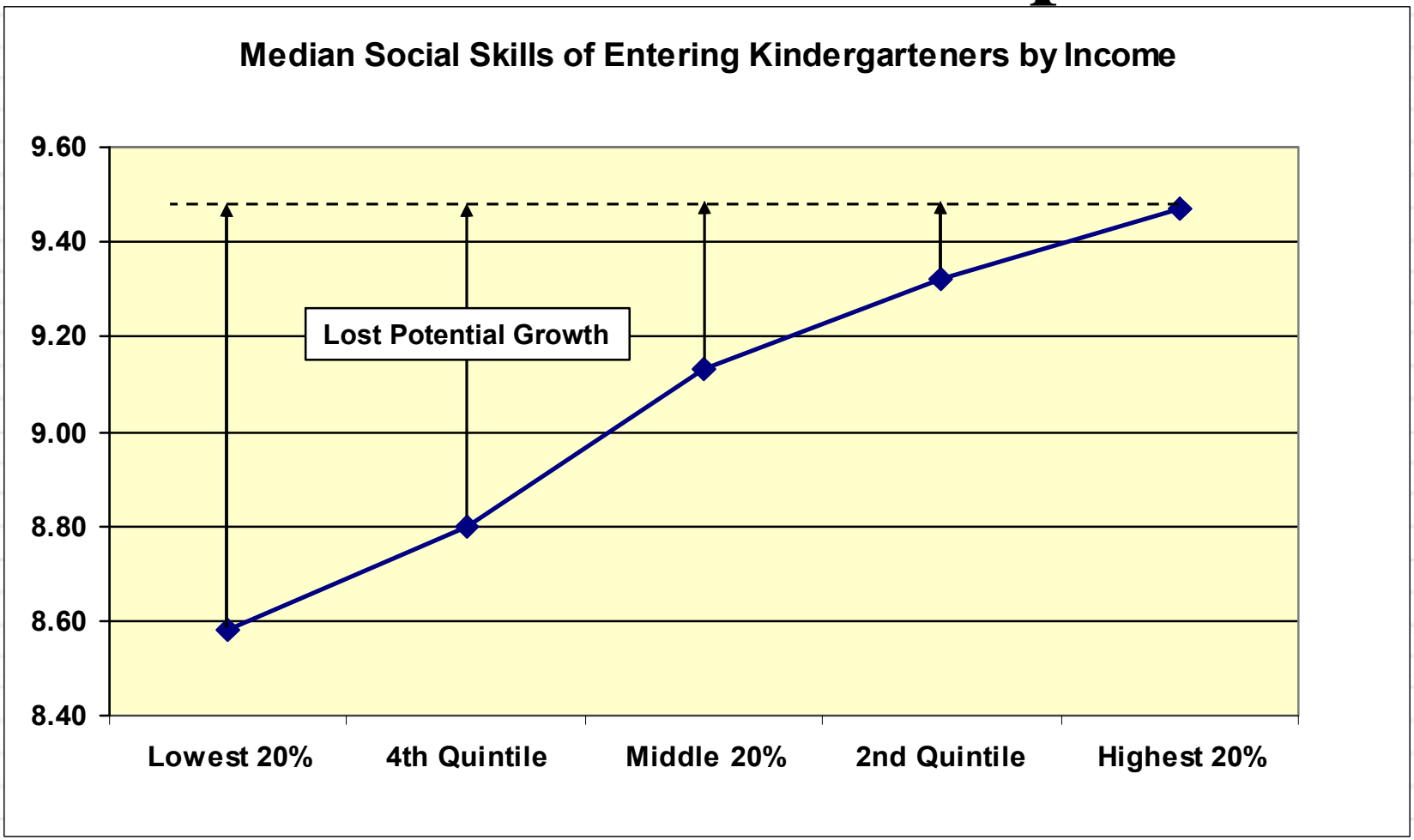
Social Skills Gap



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School Failure and the Middle Class

Middle class children have fairly high rates of failure.

Reducing these problems could generate large benefits.

Income	Retention	Dropout
Lowest 20%	17%	23%
20-80%	12%	11%
Highest 20%	8%	3%

Source:US Department of Education, NCES (1997). Dropout rates in the United States: 1995. Figures are multi-year averages.

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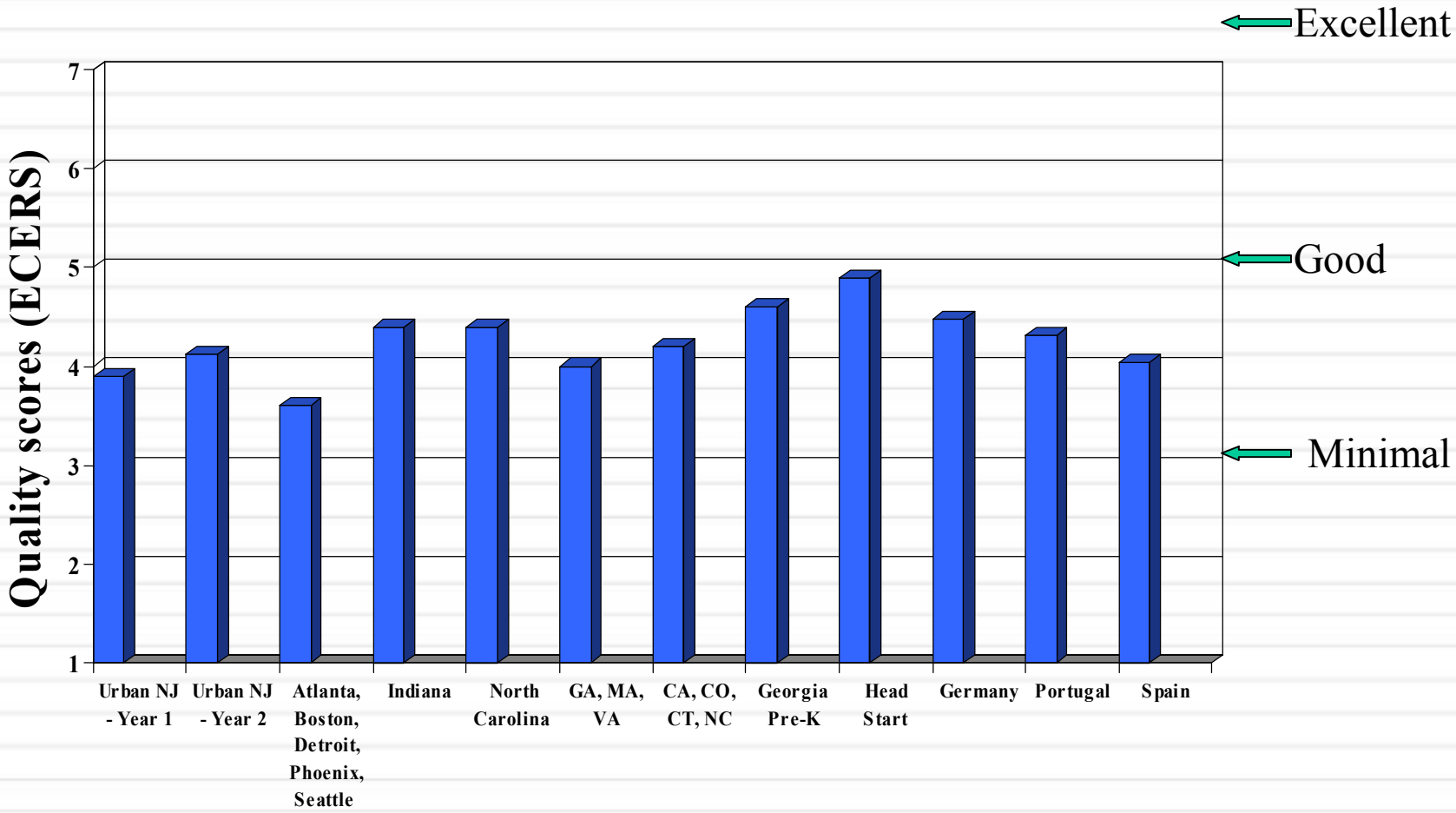
Preschool Classroom Quality is too Low in the United States and Abroad



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Impacts of Today's Pre-K

- NAEP Scores up in OK and GA (NIEER original)
- RDD Study of 3,028 children in Tulsa
  - Gains for all groups in Literacy & Math
  - Smaller than Perry & ABC, Similar to CPC
- NIEER RDD in 5 states over 5000 children
  - OK, WV, NJ, MI, SC
  - Gains in Literacy, Language & Math

Source: Gormley, W. T., Gayer, T., Phillips, D., & Dawson, B. (2005). The Effects of Universal Pre-K on Cognitive Development. *Developmental Psychology, 41*(6), 872-884. Barnett, W.S., Jung, K., Wong, V., Cook, T., Lamy, C. (2007). Effects of Five State Prekindergarten Programs on Early Learning. Paper presented at Annual Conference of the Society for Research in Child Development, Boston.

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Oklahoma 4th Grade NAEP Scores Before and After Pre-K for All

YEAR	White	Black	Hisp.	Indian
2002 Reading	220	188	197	209
2003 Reading	220	195	200	206
2005 Reading	219	196	204	211
2000 Math	229	205	207	221
2003 Math	235	211	220	225
2005 Math	240	217	226	229

Reading gains are not statistically significant; math gains are statistically significant for Whites and Hispanics (2000-05).

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Georgia 4th Grade Reading NAEP Scores Before and After Pre-K

YEAR	White	Black	Hispanic
1998	221	191	Not Avail.
2002	226	200	200
2003	226	199	201
2005	226	199	203

Gains from 1998 to 2005 are statistically significant.

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Georgia 4th Grade Math NAEP Scores Before and After Pre-K

YEAR	White	Black	Hispanic
1996	224	201	205
2000	230	204	217
2003	241	217	219
2005	243	221	229

Gains from before to after UPK are statistically significant.

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Is Targeting More Cost-Effective?

Targeted: Lower total cost but…

- ID is costly and imperfect
- Poverty is a moving target
- Need is not defined by poverty alone

Pre-K for all: More benefits…

- Reaches all disadvantaged children
- Larger gains for disadvantaged
- Likely benefits for higher income children
- Gains and positive return for all children

Source: Barnett (2004). Maximizing returns from pre-kindergarten education. Federal Reserve Bank of Cleveland Research Conference.

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High Quality Preschool Programs Needed to Produce Benefits

- Well-educated, adequately paid teachers
- Good curriculum and professional development
- Small classes and reasonable teacher:child ratios
- Strong supervision, monitoring, and review
- High standards and accountability

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Conclusions

- All children can benefit from good Pre-K
- High quality is needed for strong outcomes
- All auspices can provide quality
- Pre-K for All can be a better investment than targeted programs
- TN is poised to become a national leader offering quality to all children

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